



## Installation Requirements for Wood, Coal and Other Solid Fuel Burning Appliances

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Wood-burning stoves and other solid fuel burning appliances, such as pellet stoves and fireplace inserts, can be used to heat homes in Seattle. To assist homeowners in being sure these stoves are installed safely, the Department of Design, Construction and Land Use (DCLU) has prepared this information sheet on installation and permit requirements for wood and other solid-fuel burning appliances.

**Permits must be obtained to install these stoves.** Before installing a wood stove or fireplace insert, the owner or contractor must obtain a mechanical permit. After the stove or insert has been installed, the owner must schedule an inspection to certify that the stove or insert has been installed correctly. The inspection is a service which both reduces fire hazards and protects fire insurance validity. For additional tips on owning and operating a wood burning or other solid fuel appliance, see page 3.

In Seattle, permits for solid fuel appliances may be obtained at the DCLU Applicant Services Center, located on the 20th floor of Key Tower at 700 Fifth Avenue in downtown Seattle. To apply for a mechanical permit for a wood stove, pellet stove or fireplace insert, bring a copy of the installation instructions provided with the appliance. Please call the electrical permit counter at DCLU at **(206) 684-8464** for permit fee information.

### Solid Fuel Burning Appliances

Solid fuel burning appliances are stoves, fireplaces and free standing room heaters that are fueled by natural wood and coal. The appliances are connected to a chimney and produce heat through the combustion of

solid fuel. Examples of solid fuel burning appliances include fireplace inserts, wood stoves, wood burning heaters, wood stick boilers, and pellet stoves.

All solid fuel burning appliances sold and installed after January 1, 1992, must be "listed." A listed appliance is one that has been tested by an accredited testing agency or technical organization. The appliance must meet or exceed nationally recognized safety standards to be listed. The listing includes a set of printed instructions for the installation and operation of the appliance. These manufacturer's instructions must be followed to maintain the listed status of the appliance.

An unlisted appliance has not been tested for compliance with nationally recognized safety standards. Examples of unlisted appliances include used, antique and homemade appliances. *As of January 1, 1992, unlisted appliances may not be installed in Washington.* If a stove was manufactured before 1988, or purchased before 1990, it most likely is not certified.

### Permit Procedures

As mentioned earlier, DCLU is concerned that solid fuel burning appliances be installed correctly. The Uniform Building Code and the Uniform Mechanical Code have been designated by the State legislature as the minimum standards for building safety in this state. These codes require that a permit be obtained for the installation of any solid fuel burning appliance.

***Permits for the installation of wood stoves, pellet stoves or fireplace inserts can only be issued for certified appliances. Used stoves and inserts may not be re-installed in a home unless they are certified.***

Applicants should go to the Electrical Permit Counter located on the 20th floor of Key Tower at 700 Fifth Avenue. When you are applying for a permit, you should bring the following information with you:

1. The address of the home where the stove or fireplace insert will be installed.
2. The assessor's parcel number assigned to the home address.
3. Name of the installer.
4. Model number of the stove or fireplace insert.

5. Name of the manufacturer.
6. Type of fuel used for the stove or fireplace insert.
7. Heat rating of stove or fireplace insert (in British thermal units [Btu]) if known.
8. Size of chimney flue, if applicable.

Items 4 through 8 should be found in the installation instructions for the stove or fireplace insert. In return for obtaining the permit, the homeowner receives information, a safety inspection, and a record of any approvals given. It is becoming increasingly more important that the homeowner be able to show proof of such approvals so that fire insurance coverage will not be affected.

The mechanical permit for wood stoves, pellet stoves and fireplace inserts is an over-the-counter permit which does not require submittal of plans. If the homeowner will be installing the stove or fireplace insert, he or she needs to come in to DCLU and apply at the Applicant Services Center. Applicants are helped on a first-come, first-served basis, so a wait is likely.

Under certain circumstances there may be a need for additional permits. For instance, if the wood or pellet stove uses a blower that requires a branch circuit, an electrical permit may be required. If the appliance needs additional frame work, a building permit for the frame work may be required. The staff at the Electrical Permit counter will be able to tell you if any additional permits are required for your wood stove, pellet stove or fireplace insert.

After the wood stove, pellet stove or fireplace insert has been installed, the unit must be inspected by DCLU. Please call Inspection Services at **684-8900** (for a recorded message) or **684-8950** (for general information) to arrange an inspection.

## Installation Standards

Solid fuel burning appliances shall be installed in accordance with the terms of the listing. All required clearances and floor protection are specified on the basis of previous tests to determine safe distances from combustibles and methods of protection. Such installations may include any of the various solid fuel appliances from airtight stoves to zero clearance fireplaces.

## Combustion Air

All solid fuel burning appliances must be provided with the following:

1. Tight fitting metal or ceramic glass doors; and
2. A source from outside the structure of primary combustion air, connected to the appliance as

per manufacturer's instructions. The air inlet shall originate at a point below the fire box. The duct shall be 4 inches (102 mm) or greater in diameter, not to exceed 20 feet (6096 mm) in length, and be installed as per manufacturer's instructions.

The combustion air terminus shall be located as close to the solid fuel burning appliance as possible and shall be provided with a barometric damper or equivalent. The combustion air source shall be specified by the manufacturer or no less than 4 inches (102 mm) in diameter of the equivalent in area or as approved.

## Certification and Emission Standards

As of January 1, 1992, all used solid fuel burning appliances, such as wood stoves, that are offered for sale must be a listed appliance. **An unlisted, used wood stove may not be reinstalled in a home in Washington.**

A new stove sold after January 1, 1995, must meet Washington State emission standards that are more stringent than those used by the Federal Environmental Protection Agency. The new emission rates must be less than 2.5 grams of particulate per hour for catalytic stoves, and 2.5 grams of particulate per hour for non-catalytic stoves. A list of manufacturers who meet these new standards is available from the Department of Ecology at **(360) 407-7472**. It is also available on the Department of Ecology's website: **<http://www.wa.gov/ecology/air/91-053.html>**

As of January 1, 1997, new fireplaces offered for sale in Washington State must be certified. The new fireplaces are designed to reduce the loss of heat from your home and when used properly, are cleaner burning than previous fireplaces.

## Burn Bans

When winter weather conditions are especially cold and still, there may be a ban on indoor and outdoor burning. There are two types of burn bans:

- **Stage I.** No burning is allowed in fireplaces and uncertified wood stoves unless it is your only adequate source of heat. All outdoor burning is banned.
- **Stage II.** No burning in fireplaces and wood stoves (certified or not) unless it is your only adequate source of heat. All outdoor burning is banned.

A certified fireplace may be used during a first stage burn ban.

It is the responsibility of each wood burner to be informed of the air quality conditions and burning restrictions. This news will be covered by several radio and TV stations throughout the state. The information will also be available on a telephone line at the Puget Sound Air Pollution Control Agency (PSAPCA): **1-800-595-4341**. You can also check the PSAPCA World Wide Web site at **<http://www.psapca.org>**

## **Manufactured Homes**

Only those appliances tested and approved as meeting special installation standards for mobile homes may be considered for installation in a manufactured home. **DO NOT INSTALL UNLISTED APPLIANCES IN MANUFACTURED HOMES.** Permits for manufactured home installations must be obtained from the State of Washington Department of Labor and Industries.

## **Operating Hints**

1. A wood burning or other solid fuel appliance installed without a permit or in violation of regulatory codes may invalidate your fire insurance policy.
2. Do not alter the design of approved appliances. To do so invalidates the manufacturer's approvals and specifications and may create a fire hazard.
3. Burn only the type of fuel specified by the manufacturer. To do otherwise is dangerous and may invalidate the manufacturer's label and warranty.
4. Regular cleaning of the flue or chimney is important to safe, efficient operation of your appliance. When the stove is in use it should be checked frequently to be sure that all the pipe connections are tight. The ashes should be removed regularly and the chimney kept free of creosote build-up. A chimney system should be checked and inspected at least every 6 months. The best time is just before the heating season starts. Heavy deposits of creosote must be removed from the stove, flue pipe and chimney by scraping or brushing. A professional chimney sweep can be of invaluable assistance. Steel brushes and cleaning equipment are available at your local dealer. Chemical cleaners have not proven effective in removing an accumulation of creosote and should not be used as a substitute for mechanical cleaning.

5. Some paint burn-off should be expected in operation of some free standing fireplaces and most cast iron stoves. The finish can be easily restored by the use of stove black or high-temperature paint, available under many trade names at most hardware and fireplace stores.
6. No stove is designed to operate with overly large fires. They waste heat and can result in damage to the stove. If any part of the stove or chimney connector glows, you are over firing. If you do create too hot a fire, carefully close all the stove's dampers to reduce the amount of air coming into the stove. This will help starve the fire. Never throw water on a hot stove. The shock could cause castings to break.

**PLEASE NOTE:** DCLU public information documents should not be used as substitutes for codes and regulations. Details of your project should be reviewed for specific compliance by DCLU staff.